

REMARKS/ARGUMENTS

1. Rejection of claims 1-5 and 7-10 under 35 U.S.C. 102(e):

Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Mathews (US 6,625,715).

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Response:

The applicant would like to point out the patentable differences between claims 1, 3-5, and 8-10 and Mathews.

10 The present invention offers a way of mapping virtual addresses with different page types to physical addresses. Since some of these page types are more likely to be used than others, the page types are assigned ranks for reducing the amount different page types that need to be checked. Page types with higher numbers of successful comparisons are given higher ranks for reducing the comparing time
15 needed for comparing the various page types. The cited Mathews patent does not teach the fundamental concept of the present invention of ranking page types according to the number of successful comparisons, as will be explained below.

20 **Claim 1** contains the limitation of “(e) determining the rank of the page type if the page type of the virtual address in step (b) and the tag compared bits in step (c) correspond with a page type and a tag address in the TLB.” In the claimed invention, the rank of the page type is determined according to whether the page type of the virtual address and the tag compared address of the virtual address correspond with that of the TLB.

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On the other hand, Mathews does not teach or suggest any sort of scheme for determining the rank of the page type according to whether the page type and the tag

compared address of the virtual address. Although Mathews teaches use of a page size bias (column 7, lines 52-67), Mathews does not teach determining the value of the page size bias according to whether the page type of the virtual address and the tag compared address of the virtual address correspond with that of the TLB.

5 Therefore, Mathews does not teach all of the limitations of claim 1.

In addition, with respect to **claims 3-5**, Mathews does not teach raising the ranks of page types or sorting the ranks of page types according to the number of times that the page types in the TLB are accessed.

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Claim 8 contains the limitation of “a rank generating module used for generating the ranks of the plurality of the page types in the TLB according to the checking result of the page type comparing module.” As explained above with respect to claim 1, Mathews does not teach generating the ranks of the plurality of page types according to whether the page type of the virtual address and the tag compared address of the virtual address correspond with that of the TLB. Therefore, Mathews does not teach all of the limitations of claim 8.

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As to **claims 9 and 10**, Mathews does not teach sorting the ranks of page types or raising the ranks of page types according to the number of times that the page types in the TLB are accessed.

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For the reasons listed above, the applicant respectfully submits that each of claims 1, 3-5, and 8-10 is patentably distinct from Mathews. Furthermore, claims 2-5, 25 7, 9, and 10 are dependent on independent claims 1 and 8, and should be allowed if claims 1 and 8 are allowed. Reconsideration of claims 1-5 and 7-10 is therefore respectfully requested.

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Amdt. dated November 08, 2006
Reply to Office action of August 09, 2006

2. Rejection of claim 6 under 35 U.S.C. 103(a):

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mathews (US 6,625,715) further in view of McFarland et al (US 4,595,923).

5 **Response:**

Claim 6 is dependent on independent claim 1, and should be allowed if claim 1 is allowed. Reconsideration of claim 6 is therefore respectfully requested.

10 Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

Winston Hsu

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15 Winston Hsu, Patent Agent No. 41,526
P.O. BOX 506, Merrifield, VA 22116, U.S.A.
Voice Mail: 302-729-1562
Faesimile: 806-498-6673
e-mail : winstonhsu@naipo.com

20 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)